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Why Are Frequent Users of Ambulatory Care Responsible for a Disproportionate Share of Medicaid Expenditures in California?

Katherine Swartz

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2100 M Street N.W., Washington, D. C. 20037

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Among the AFDC females eligible for Medicaid in California, the 30 percent who are frequent users of ambulatory care account for two-thirds of the Medicaid expenditures on the AFDC female population. Their disproportionate share of expenditures makes them an easy target for criticism by those trying to hold down Medicaid costs.

Some critics of Medicaid have argued that frequent users of ambulatory care are largely hypochondriacs who shop around for physicians as a way of getting attention. Proposals to "manage care" or limit freedom of choice are based in part on this belief. Other critics have argued that certain types of medical problems are more likely to get sympathy from the medical profession in some geographic areas than in others. In particular, mental disorders and psychiatric care are rumored within California to be handled more often in the urban areas than elsewhere. The folklore is that people with such problems are encouraged to move to the urban counties in order to receive such care. Still other critics argue that physicians in private practice are too eager to recommend that diagnostic tests and marginal surgical procedures be done, particularly those that involve hospitalization, since that may be more convenient and financially rewarding for the physicians. In another line of reasoning, some critics maintain that hospital emergency rooms and outpatient departments are relatively expensive settings for medical care and serve as "feeders" for inpatient services. This is because they are predominantly staffed by medical students and residents who may be more prone to order diagnostic tests and inpatient care in a hospital than are more seasoned physicians.

This paper shows that at least for this population in this state, such criticism seems largely unwarranted. In particular, the criticism that hospital ambulatory care settings may be prone to unnecessary expenditures and hospitalization does not seem to be borne out by the Medicaid data from the California AFDC female population (see also Held and Swartz, 1983). Rather, the data show that frequent users are highly likely to seek care in a physician's office. The incidence rates for hospital discharge diagnoses also suggest that frequent users may be sicker than other Medicaid users.

This paper focuses on the average expenditures and other data pertaining to ambulatory visits and hospitalizations for AFDC females less than 65 years old who had at least four ambulatory visits to a physician in six months.[1] Among these frequent users of ambulatory care, the average number of visits in six months was 6.7--almost three times the national average of 4.8 visits in a year.[2] Further, one in seven of the frequent users was hospitalized at least once in six months--which compares to a national average of one in ten being hospitalized during a year. This paper looks at who the frequent users are in terms of their age and county of residence, and the ambulatory care setting to which they went at least 75 percent of the time. It explores why the expenditures for frequent users are high in terms of the sources of the expenditures, the hospitalization diagnoses, and who is hospitalized.

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[1]For a comparison of Medicaid claims data for frequent and infrequent users of ambulatory care, see the appendix table.

[2]See National Center for Health Statistics (1983). Note that NCHS includes telephone consultations with a physician in their totals of visits and our Medicaid claims data do not--so the difference is even more striking when the 12 percent of all NCHS physician visits that are telephone consultations are omitted.

THE AFDC FEMALES' MEDI-CAL CLAIMS DATA FOR 1976-1978

A sample of all the claims for payment made by physicians and hospitals to California's Medicaid (Medi-Cal) program during the first six months of 1976, 1977, and 1978 form the data base used here. The claims are organized in person records, which makes it easy to obtain a picture of all the expenditures made by Medi-Cal for each individual. The individuals we have focused on are females receiving cash assistance from AFDC (Aid to Families with Dependent Children) who are less than 65 years of age, with the exceptions of those who are 7 to 14 years old and anyone who lives in Los Angeles County.[3] From a sample of 8,443 such females who were also eligible for Medicaid for at least six continuous months, we selected all those who had four or more ambulatory care visits in six months.[4] Almost a third of the sample, or 2,988 females, were identified as frequent users. Data were weighted to correct for age cohort and geographic stratification in the original sampling procedure. Claims for pregnancies were omitted from the claims data because physicians do not send in separate claims for prenatal ambulatory care and because virtually all term pregnancies lead to a hospitalization.

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[3]Los Angeles County was omitted because outpatient department services were reimbursed by Medicaid differently than they were in the rest of the state of California. The 7-14 year olds were omitted because they are the least likely to use ambulatory care and, given the size limitations of the sample of Medicaid claims data, the statistical power of findings for this cohort was dubious.

[4]The original sample of 8,443 contains 1,869 who did not use ambulatory care but were eligible for Medicaid. These nonusers represent 23.5 percent of the AFDC females eligible for Medi-Cal. One percent of these nonusers of ambulatory care was hospitalized and expenditures for hospital and other medical services were made by Medicaid on their behalf.

AGE AND COUNTY OF RESIDENCE

Who are the frequent users of ambulatory care? Table 1 shows their age distribution. Fifty-five percent of the frequent users are between 15-34 years of age--exactly the proportion of the AFDC female population eligible for Medi-Cal. However, babies and women 35-64 years old represent a larger proportion of the frequent users than of the general AFDC population--27 percent versus 20 percent. Conversely, children 1-6 years old represent a smaller proportion of the frequent users. More than half of the babies are frequent users compared to only one in five of the children 1-6 years old. The American Academy of Pediatrics recommends that babies see a physician once a month until the age of six months and then every other month until the age of one year; undoubtedly some of this is being picked up in our babies who are frequent users. With the exception of the babies, the proportion of AFDC eligibles who are frequent users increases with age. This pattern is consistent with increasing numbers of ambulatory visits per capita as age increases, which has been found in various surveys of medical care utilization.

It is often argued that people are more likely to be frequent users of ambulatory care in areas where providers can be found in greater numbers. This usually implies areas that have large, urban centers. As can be seen in Table 2, the counties with the highest shares of frequent users are San Diego County (11.4 percent) and Alameda County (11.05 percent). The rural counties account for 10.1 percent and San Francisco County accounts for 8.3 percent of the frequent users. The counties with proportions of frequent users that are larger than their shares of the AFDC females eligible for Medi-Cal are Alameda, San Francisco, Orange, San Diego, Contra Costa, and Sacramento. But only the first four of these counties and the rural counties have proportions

Table 1

Age Distribution of Frequent Users of Ambulatory Care
Who Are AFDC Females Eligible for Medicaid, 1976-1978

(Percent)

Age Cohort	Frequent Users	Proportion of Expenditures On Frequent Users	AFDC Medicaid Eligibles	Proportion of Eligibles Who Are Frequent Users
Less Than 1 Year	6.04	4.0	3.35	52.4
1 - 6 Years	17.78	22.1	25.07	20.6
15 - 24 Years	27.26	19.8	30.21	26.3
25 - 34 Years	28.02	32.3	24.77	32.9
35 - 49 Years	16.95	17.8	13.90	35.5
50 - 64 Years	3.94	4.0	2.69	42.6

of expenditures on frequent users that exceed their proportions of frequent users. Taken together, these four counties account for 46.2 percent of the frequent users. The availability of Medicaid services, as measured by the number of OPDs, ERs, and clinics in each county, was above the statewide median in each of the first four counties. Also, the proportion of doctors who saw 10 or more Medicaid patients in three months was above 50 percent in the rural counties and in Alameda, San Francisco, and San Diego Counties.

The counties are grouped in Table 2 according to whether they have urban centers, small cities, or are rural. What emerges from Table 2 is that the counties with large urban centers account for a disproportionate share of the Medicaid expenditures on frequent users. But closer inspection reveals that only two of the counties with large urban centers are responsible for this pattern: Alameda and San Diego Counties. While claims for ambulatory care were reimbursed according to a statewide rate schedule that was instituted in December 1976, hospitals were reimbursed in proportion to their charges. Both Alameda and San Diego Counties' proportion of inpatient expenditures on frequent users are relatively high but they are not due to extraordinarily high hospitalization rates. Perhaps the asymmetrical pattern is the result of having hospitals with relatively high cost structures.

AMBULATORY CARE SETTINGS

Table 3 shows the distribution of the frequent users among the ambulatory care settings and their shares of both the AFDC female population and Medicaid expenditures on this group. Each person was assigned a predominant source of care (PSC) if at least 75 percent of their ambulatory care visits occurred in one setting; otherwise the person was classified as not having a clear source of care. The vast majority of the frequent users, 76 percent, saw a physician

Table 2

County Data on Population and Expenditures

County	Percent of Frequent Users	Percent of AFDC Medicaid Eligibles	Percent of Expenditures on Frequent Users	Percent of Inpatient Expenditures on Frequent Users
With Large Urban Centers, Total:	58.65	54.4	63.4	64.5
Alameda	11.05	10.2	17.3	21.8
San Francisco	8.3	6.8	9.4	9.5
Santa Clara	5.4	6.7	3.7	2.4
Orange	5.3	4.7	5.6	5.2
San Diego	11.4	9.8	13.9	15.6
Contra Costa	4.4	3.9	2.7	1.5
Marin	0.6	0.6	0.5	0.2
Sacramento	6.4	5.6	5.5	4.5
San Mateo	2.3	2.1	2.4	2.1
Solano	1.6	1.5	1.3	1.0
Ventura	1.9	2.5	1.1	0.7
With Small Cities:				
Santa Cruz, Yolo, Riverside, San Bernardino, Fresno, Kern, Monterey, Napa, San Joaquin, Sonoma, Stanislaus, Santa Barbara, San Luis Obispo	31.2	33.7	24.9	21.6
Rural:				
Del Norte, Humboldt, Mendocino, Lake, Lassen, Modoc, Shasta, Siskiyou, Trinity, Butte, Colusa, Glenn, Nevada, Plumas, Sierra, Sutter, Tehama, Yuba, Alpine, Amador, Calaveras, El Dorado, Madera, Mariposa, Merced, Mono, San Benito, Tuolumme, Placer, Inyo, Kings, Tulare, Imperial	10.1	12.1	11.8	13.8

Table 3

Ambulatory Care Settings' Shares of Frequent Users and Expenditures

Predominant Source of Care	Percent of Frequent Users[a]	Frequent Users as Percent of AFDC Eligibles	Frequent Users' Percent of Expenditures
All Frequent Users	100.0	30.0	66.2
Emergency Room	2.6	0.8	1.0
Outpatient Department	6.3	1.9	2.8
Physician's Office	76.0	22.8	49.1
Clinic	2.3	0.7	0.8
No Clear Source	12.8	3.8	12.5

[a]Frequent users are people with 4 or more ambulatory care visits in a six month period.

[b]A person was assigned "no clear source" of care if her ambulatory care visits did not exhibit a pattern such that at least 75 percent occurred in one setting.

in his private office for at least 75 percent of the visits they had.[5] What is perhaps most striking in Table 3 are the disproportionate shares of total expenditures attributable to frequent users without a clear source of care and those whose predominant source is a physician's office. The share of expenditures accounted for those who do not have a clearly predominant source of care is more than three times their proportion of the AFDC female population eligible for Medicaid. The physician's office frequent users' share of expenditures is a little more than double their proportion of the population. It is important to note that most of those without a clear source of care went to a physician's private office for more than half of their ambulatory visits. Thus, three of every five dollars spent by Medicaid on the AFDC females were for frequent users who more than half the time sought ambulatory care at a physician's private office.

As Table 4 shows, the average total expenditures for those without a clear source of care are more than twice what they are for the people whose most frequent source of care is an ER, OPD, or clinic. Those without a clear source of care have the highest average number of ambulatory care visits and the highest average Medicaid expenditures for ambulatory care. The expenditures for ambulatory care are high for this group, not only because they have the highest average number of ambulatory visits, but also because the average number of relative value units (RVUs) per visit is high

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[5]By comparison, 73 percent of all ambulatory visits by the AFDC females eligible for Medicaid who were infrequent users were in a physician's office. Similarly, NCHS (1983, p. 2) found in a survey of physician visits which included telephone consultations, that 68 percent of all such visits took place in a doctor's office.

Table 4

Ambulatory Care for Frequent Users, During Six Months, by Predominant source of Care

Predominant Source of Care	Average Total Expenditures (dollars)	Average Expenditures for Ambulatory Visita (dollars)	Average Number of Ambulatory Visits	Average Number of RVUs Per Visit
All Frequent Users	517	90.25	6.73	21.37
Emergency Room	298	91.56	4.90	29.42
Outpatient Department	348	79.55	6.58	18.77
Physician's Office	504	88.37	6.73	20.94
Clinic	290	71.66	5.87	18.98
No Clear Source	762	109.69	7.34	24.17

and second only to that for ER frequent users.[6] Thus, the ambulatory care component of the average total expenditures for those without a clear source of care seems to be caused by relatively complex presenting illnesses.

Those who saw a physician in his private office at least 75 percent of the time have the second highest average number of ambulatory visits. Their average number of RVUs per visit is 10-12 percent higher than the average for the frequent users of OPDs and clinics. The average expenditures for ambulatory visits are 11-23 percent higher for frequent users of physicians' offices than for frequent users of OPDs and clinics, reflecting their differences in the average number of visits. Thus, the frequent users of physicians' offices seem to have slightly more complex presenting illnesses than the frequent users of OPDs and clinics.

The second set of statistics that helps explain the disparate PSC shares of Medicaid expenditures comprises the hospitalization rates and expenditures for inpatient stays, shown in Table 5. The frequent users without a clearly predominant source of care have the highest rate of hospitalization: slightly more than one in five were hospital inpatients. Compounding this, they also have the highest total Medicaid expenditures per person hospitalized but the second lowest average cumulative length of stay in the hospital. Thus, for those without a clearly predominant source of care who are hospitalized, the

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[6] Relative value units provide a scale for measuring the complexity of a visit to a physician or of a medical procedure. Complicated visits are not necessarily synonymous with severe illnesses--if the illness is easily diagnosed the visit will not receive a high number of RVUs. For example, tuberculosis is rather easily identified, especially if a physician has seen it frequently in similar people. Consequently, an ambulatory visit for the diagnosis and treatment of tuberculosis does not ordinarily receive a high number of RVUs, even though tuberculosis is a serious illness.

As the appendix table indicates, infrequent users of ambulatory care have, on average, higher RVUs per visit. This may be due, in part, to the paucity of contact with the physician and the need by the physician to obtain more medical history from the patient.

Table 5

Hospital Care for Frequent Users of Ambulatory Care, During Six Months, by Predominant Source of Care

Predominant Source of Care	Hospitalization Rate (percent)	Average Cumulative Length of Stay in Hospital (days)	Average Expenditures for People Hospitalized (dollars)	Average Expenditures Per Inpatient Day (dollars)	Average Total Expenditures (dollars)
All Frequent Users	14.1%	6.5	1,918	305	517
Emergency Room	8.5%	8.2	1,547	187	298
Outpatient Department	10.8%	7.1	1,534	237	348
Physician's Office	13.3%	6.5	1,939	305	504
Clinic	9.8%	4.4	1,508	359	290
No Clear Source	22.0%	6.2	1,981	325	762

average expenditures per day are relatively high, indicating that this group received more complex and expensive care. Further, 10 percent of this group who were hospitalized were hospitalized twice and another 11 percent were hospitalized three times or more in six months (See Table 6).

Similarly, the frequent users whose PSC was a physician's office had the second highest hospitalization rate, with slightly more than one in eight being hospital inpatients. They had the second highest average expenditures per person hospitalized and relatively high expenditures per inpatient day. Eighteen percent of this group were hospitalized more than once in six months.

HOSPITALIZATION DIAGNOSES

Why are these people being hospitalized? Are the physicians in private offices hospitalizing unnecessarily or are the people who seek medical care in private offices sicker? Hospitalization diagnoses provide some clues along these lines, though their accuracy is open to question.[7]

Table 7 shows the incidence rates of the 17 major categories of hospital diagnoses for the frequent users of ambulatory care as well as the infrequent users among the AFDC female population and the females in the entire U.S. population. The incidence rates of five of the diagnosis categories are higher for the AFDC frequent users than for the whole population of females in the U.S. Two other diagnoses have virtually identical incidence rates for the two groups. The AFDC females who are frequent users of ambulatory care have much higher incidence rates for all but two diagnosis categories compared to the AFDC infrequent users. The data do not allow us to claim categorically

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[7] There is no way of knowing whether some random doctors or doctors in certain ambulatory care settings were likely to overstate diagnoses in order to insure Medicaid would pay the claims. Thus, the diagnoses have to be taken at face value with the hope that peer review committees in hospitals encouraged the accuracy of the diagnoses on the claims.

Distribution of Hospitalized Females With One, Two or Three Episodes by Predominant Source of Care for Frequent Users of Ambulatory Care, and by Number of Ambulatory Visits for Infrequent Users of Ambulatory Care

Frequent Users: Predominant Source of Care	Of Those Hospitalized, Percents With: One Episode	Two Episodes	Three Episodes	Share of All Frequent Users Hospitalized[a]
Emergency Room	63.0	20.0	17.0	1.5
Outpatient Department	69.5	23.5	7.0	4.9
Physician's Office	82.0	8.5	9.5	71.9
Clinic	100.0	0.0	0.0	1.6
No Clear Source	79.5	9.5	11.0	20.1
All Frequent Users	81.0	9.5	9.5	100.0

Infrequent Users: Number of Ambulatory Visits	Of Those Hospitalized, Percents With: One Episode	Two Episodes	Three Episodes	Share of All Infrequent Users Hospitalized
0 Visits	91.1	8.3	0.7	9.3
1 Visit	98.2	1.8	0.0	23.0
2 Visits	93.5	6.1	0.4	31.9
3 Visits	84.6	12.1	3.3	35.8
All Infrequent Users	91.2	7.5	1.4	100.0

[a]This distribution is statistically indistinguishable from the distribution of frequent users' total bed days in short-term hospitals.

Table 7

Rate of First-Listed Diagnoses for Inpatients Discharged From Short-Stay Hospitals, Excludes Newborn Infants; Rates Per 10,000 Females in U.S. (1979), AFDC Females Who Are Infrequent and Frequent Users of Ambulatory Care in California, (1976-78)

	U.S. Females[a,b]	AFDC Infrequent Users	AFDC Frequent Users
All Conditions	1,973.2	478.47	1,406.02
Infectious and Parasitic Disease	28.6	11.87	53.67
Neoplasms	126.0	22.11	83.91
Endocrine, Nutritional and Metabolic Problems	61.0	0.66	35.61
Diseases of Blood, etc.	17.3	3.22	1.11
Mental Disorders	74.9	21.72	69.04
Diseases of Nervous System, etc.	81.7	5.82	45.04
Diseases of Circulatory System	218.1	6.35	43.06
Diseases of Respiratory System	145.9	94.67	176.55
Diseases of Digestive System	215.7	25.28	105.97
Diseases of Genitourinary System	221.3	65.15	341.43
Complications of Pregnancy, etc.[c]	88.5	58.62	114.36
Diseases of Skin, etc.	28.3	4.75	11.72
Diseases of Musculoskeletal, etc.	105.7	15.38	15.83
Congenital Anomalies	14.8	4.09	9.44
Perinatal Origin Conditions	2.8	0.58	2.78
Symptoms, Signs, Ill-defined	31.2	15.28	30.69
Accidents, Poisonings, and Injuries Due to Violence	141.3	89.12	208.33
Supplementary Classifications[c]	370.3	33.82	57.45

[a]This includes females over 65, whereas the AFDC groups do not.

[b]From National Center for Health Statistics (1982, Table A).

[c]Deliveries are not included in supplementary classification.

that the frequent users are a sicker group of females. However, the data also do not substantiate beliefs that frequent users of ambulatory care are neurotic and are hypochondriacs. If such beliefs were accurate descriptions of the frequent users then the incidence rates of mental disorders and symptoms, signs, and ill-defined diagnoses would be substantially higher than they are.

Table 8 indicates the distribution of first hospitalization episode diagnosis categories by the PSC of the frequent users who were hospitalized. While hospitalization diagnoses are not necessarily correlated with reasons for seeking ambulatory care, the pattern of diagnoses by people's PSC fits one's expectations in those cases where priors exist. For example, the largest number of females who are hospitalized for accidents, poisonings, or injuries due to violence have ERs as their PSC. OPDs often operate as large group practices for prenatal and pediatric care, and most of the females hospitalized with respiratory system diseases, complications of pregnancy, etc., and prenatal mobidity and mortality have OPDs as their PSC. Most of the females hospitalized with mental disorders have a PSC that is a physician's office or do not have a clear source of care.

Who are the people who are hospitalized and responsible for the higher average Medicaid expenditures for the frequent users of ambulatory care? Table 9 shows the hospitalization rate, the percents with one, two, or three hospitalization episodes, and the share of those hospitalized belonging to each of the age cohorts. About four out of every five AFDC females who were frequent users of ambulatory care and were hospitalized were 15-49 years old. Roughly one in twenty of those hospitalized were babies; of the babies who were frequent users of ambulatory care, one in ten were hospitalized. One in eight of those hospitalized were children 1-6 years old; children also had

Table 8

Distribution of Hospital Discharge Major Diagnostic Categories
by Predominant Source of Care of Frequent Users Who Were Hospitalized
(Column Percent Above Row Percent for Each Cell)

	Predominant Source of Care					
Diagnostic Category	Emergency Room	Outpatient Department	Physician's Office	Clinic	No Clear Source	Row Percent (Frequency)
Uncategorized	0.00 0.00	0.00 0.00	4.76 83.71	0.00 0.00	3.31 16.29	4.09 (1,081)
Infective and Parasitic Diseases	0.00 0.00	2.03 2.74	2.57 51.00	96.51 42.24	0.73 4.03	3.62 (957)
Neoplasms	0.00 0.00	3.98 3.79	5.37 75.53	0.00 0.00	5.27 20.69	5.12 (1,353)
Endocrine, Nutritional and Metabolic Diseases	0.00 0.00	0.00 0.00	3.58 97.52	0.00 0.00	0.33 2.48	2.64 (699)
Diseases of the Blood and Blood-Forming Organs	0.00 0.00	0.00 0.00	0.52 100.00	0.00 0.00	0.00 0.00	0.37 (99)
Mental Disorders	0.00 0.00	2.35 4.34	2.44 66.40	0.00 0.00	3.84 29.26	2.64 (698)
Diseases of the Nervous System and Sense Organs	0.00 0.00	22.64 37.16	2.30 55.55	0.00 0.00	1.08 7.29	2.97 (786)
Diseases of the Circulatory System	0.00 0.00	1.22 1.49	3.93 70.61	3.49 1.38	5.28 26.52	4.00 (1,058)
Diseases of the Respiratory System	41.87 4.56	22.33 7.65	13.32 67.27	0.00 0.00	14.54 20.52	14.23 (3,764)
Diseases of the Digestive System	10.30 1.87	9.49 5.43	5.97 50.31	0.00 0.00	18.01 42.40	8.53 (2,256)
Diseases of the Genitourinary System	21.65 1.39	5.67 1.15	27.15 80.98	0.00 0.00	19.78 16.48	24.11 (6,375)
Complications of Pregnancy, Childbirth and the Puerperium	0.00 0.00	18.76 11.24	6.92 61.20	0.00 0.00	11.16 27.55	8.13 (2,151)
Diseases of Skin and Subcutaneous Tissue	0.00 0.00	6.51 46.23	0.44 46.26	0.00 0.00	0.26 7.50	0.69 (182)
Diseases of the Musculo-skeletal System and Connective Tissue	0.00 0.00	0.00 0.00	1.01 91.29	0.00 0.00	0.34 8.71	0.79 (210)
Congenital Anomalies	0.00 0.00	0.00 0.00	0.51 50.89	0.00 0.00	1.76 49.11	0.72 (190)
Certain Causes of Perinatal Morbidity and Mortality	0.00 0.00	1.02 34.18	0.07 33.90	0.00 0.00	0.23 31.92	0.15 (38)
Symptoms and Ill-defined Conditions	0.00 0.00	0.00 0.00	3.13 97.84	0.00 0.00	0.25 2.16	2.30 (608)
Accidents, Poisonings and Injuries due to Violence	26.19 2.72	4.00 1.31	16.03 77.35	0.00 0.00	13.82 18.62	14.90 (3,941)
Column Percent (Frequency)	1.55 (410)	4.88 (1,289)	71.91 (19,017)	1.58 (419)	20.08 (5,310)	100.00 26,445

Table 9

Hospitalization Rate and Distribution of Hospitalized Females With One, Two, or Three Episodes for Each Age Cohort of Frequent Users of Ambulatory Care

Age Cohort	Hospitalization Rate[a] (percent)	Of Those Hospitalized, Percent With: One Episode	Two Episodes	Three Episodes	Share of All Frequent Users Hospitalized (percent)
Less Than 1 Year	10.5	76.0	16.0	8.0	4.5
1-6 Years	10.0	58.0	14.0	28.0	12.1
15-24 Years	15.9	91.0	3.5	5.5	30.9
25-34 Years	16.3	82.0	9.5	8.5	32.5
35-49 Years	13.4	81.0	12.0	6.5	16.2
50-64 Years	13.6	70.0	21.0	9.0	3.8
All Frequent Users	14.1	81.0	9.5	9.5	100.0

[a]Excludes pregnancies.

a hospitalization rate of 10 percent. However, the children have the highest percentages, with more than one episode in the hospital in six months. Twenty-eight percent of the children who were hospitalized had three or more episodes in the hospital. These figures probably explain why the children have the highest cumulative length of stay in the hospital. In contrast to the babies and children, the older cohorts of females have higher hospitalization rates and, except for the 50-64 year olds, have higher percentages with only one episode in the hospital.

Table 10 shows the primary first hospitalization episode diagnoses for each cohort. As one might expect, the 1-6 year old children were hospitalized for accidents, poisonings, or injuries due to violence a substantial amount of the time. Thirty-five percent of the first episode diagnoses for 1-6 year olds were for such reasons; 60 percent of their second episode diagnoses and 90 percent of their third episode diagnoses were for such reasons. The specific diagnoses were largely for concussions, shoulder dislocations, and intracranial injuries. Respiratory system diseases and infective and parasitic diseases also took their toll. For babies, half of the first episode diagnoses were for respiratory diseases (mostly pneumonia and bronchitis) and a fifth were for infective or parasitic diseases. For children, a third of the first episode diagnoses were for respiratory diseases and an eighth were for infective or parasitic diseases. Thus, most of the hospitalizations of babies and children were for accidents, respiratory diseases, and infective or parasitic diseases.

Adult women, not surprisingly, were hospitalized with problems that arise more frequently with age. Genitourinary system diseases and problems are the most frequent first episode diagnoses. A third of the women 15-24 and 25-34 years old were hospitalized with such diagnoses, while a fifth of the 35-49

Table 10

Primary First Hospitalization Episode Diagnoses
For Each Age Cohort of Frequent Users of
Ambulatory Care Who were Hospitalized

Age Cohort	Primary Diagnosis
Less Than 1 Year	46% had respiratory system diseases
	19% had infective or parasitic diseases
1-6 Years	35% had accidents, poisonings or injuries due to violence
	31% had respiratory system diseases
	13% had infective or parasitic diseases
15-24 Years	33% had genitourinary system diseases
	20% had complications of pregnancy, childbirth and the puerperium
	18% had respiratory system diseases
	16% had accidents, poisonings or injuries due to violence
25-34 Years	30% had genitourinary system diseases
	12% had digestive system diseases
	10% had neoplasms
	10% had sterilizations, post-operative hospitalizations, etc. (Y class)
35-49 Years	22% had accidents, poisonings or injuries due to violence
	19% had genitourinary system diseases
	13% had digestive system diseases
	10% had circulatory system diseases
50-64 Years	18% had digestive system diseases
	17% had genitourinary system diseases
	12% had neoplasms
	10% had circulatory system diseases

year old women and a sixth of the 50-64 year old women had such diagnoses. A fifth of the 15-24 year old women who were hospitalized had complications of pregnancy, childbirth, and the puerperium. Slightly more than half of these diagnoses for all adult women were for abortions. Diagnoses of accidents, poisonings, or injuries due to violence account for a sixth of the 15-24 year old women's first episode hospitalizations and more than a fifth of the 35-49 year old women's hospitalizations. The specific diagnoses were largely for leg, foot or back sprains and strains, and head wounds or skull fractures. Diseases connected with respiratory, digestive, and circulatory systems; neoplasms; and a group of diagnoses that includes sterilizations and post-operative check-ups are the other diagnosis groups that account for large shares of the adult females hospitalized.

CONCLUSIONS

The genesis of this paper was to attempt to determine why frequent users of ambulatory care account for two-thirds of Medicaid expenditures on AFDC females in California. Of particular interest was whether or not any of the hypotheses concerning high expenditures for frequent users could be supported, particularly those that pointed a finger of blame on physicians in private practice and in urban areas. One such hypothesis is that physicians in private practice drive up Medicaid costs by unnecessary diagnostic tests and hospitalization. Although the frequent users who have a physician's office as a PSC or do not have a clear source of care have the highest rates of hospitalization, there is no evidence to prove that the physicians are hospitalizing a lot of people for vague or questionable reasons.

Another hypothesis is that people who visit a physician in an ER or OPD are more likely to have unnecessary diagnostic tests and stay in the hospital because the ERs and OPDs are staffed by young and inexperienced physicians who

opt for these forms of medical care more than would experienced physicians. But California's AFDC frequent users whose PSC is an OPD or ER have the lowest rates of hospitalization among the frequent users. Yet another hypothesis points the finger of blame on the frequent users themselves. Proponents of this hypothesis argue that frequent users are largely hypochondriacs who shop around among physicians, seeking attention and thereby driving up costs. Since we do not know whether the females whose PSC is a physician's office saw the same physician or not, we cannot make a definitive statement about this hypothesis. However, it seems likely that if it were true, we would observe higher incidence rates of hospitalization for mental disorders and ill-defined symptoms for this group than for the U.S. population of females. And we do not.

Unfortunately, these findings are limited in their usefulness for developing a national policy to reduce the Medicaid expenditures for frequent users of ambulatory care. As we noted at the beginning, the data used here are for California between 1976 and 1978. There is strong evidence to suggest that Medicaid eligibles in California at that time were far more likely to receive ambulatory care in physicians' offices than were their counterparts in other states, particularly in the Eastern United States.[6] Thus, the fact that these data do not support the hypothesis that OPDs and ERs hospitalize people unnecessarily does not mean that we can rule out the hypothesis for the country as a whole.

However, among AFDC females eligible for Medicaid in California in 1976-78, it is clear that the high expenditures for the frequent users of ambulatory care are because one in seven of them were hospitalized at least

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[6] John Holahan of the Urban Institute has unpublished data that suggest this is the case.

once in six months. Only one in 20 of the infrequent users were hospitalized. Furthermore, the average expenditures for hospital inpatient care were 90 percent higher for the frequent users than for the infrequent users. The incidence rates of major diagnosis groupings for frequent users, infrequent users, and the female population of the U.S. make it difficult to believe that these differences in hospitalization rates and expenditures for the frequent and infrequent users are not the result of the frequent users being in poorer health than the infrequent users. And if this is indeed the case, then it is not clear that managed care would reduce California's Medicaid expenditures appreciably for frequent users of ambulatory care.

Clearly more needs to be known about frequent users of ambulatory care in California and the United States as a whole. In particular, what is the general health status of such people relative to infrequent users of ambulatory care? What proportion of frequent users see many different physicians even though they choose to go to one type of ambulatory care setting most of the time? To what extent is the ambulatory care received by California's AFDC females who are eligible for Medicaid different from that received by Medicaid eligibles in the rest of the country? If there are differences in the patterns of ambulatory care, are there also different hospitalization rates among people who see a physician in an ER or OPD as opposed to a private office? Answers to such questions would be valuable in developing national policies that would control Medicaid expenditures without also having unintended consequences for the quality of care received by Medicaid eligibles.

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Appendix

Ambulatory Care and Hospital Data for Infrequent and Frequent Users of Ambulatory Care, AFDC Females Eligible for Medicaid in California, 1976-1978

Number of Ambulatory Vists or Predominant Source of Care	Expenditures for Ambulatory Care (dollars)	Average Number of Ambulatory Visits	RVUs Per Visit	Percent Hospitalized	Average Length of Stay in Hospital (days)	Expenditures for Hospital Care (dollars)	Expenditures Per In-Patient Day (dollars)	Total Average Expenditures (dollars)
Zero	0.00	0.0	0.0	1.3	5.24	1,265	256	31.20
One	15.57	1.0	25.1	4.2	3.37	686	231	81.49
Two	29.08	2.0	23.3	6.9	4.69	1,187	265	179.69
Three	42.98	3.0	22.7	10.0	3.92	1,000	315	239.69
Frequent Users' Predominant Source of Care								
Emergency Room	91.56	4.9	29.4	8.5	8.17	1,547	187	298.33
Outpatient Department	79.55	6.6	18.8	10.8	7.10	1,534	237	347.74
Physician's Office	88.37	6.7	20.9	13.3	6.53	1,939	305	503.72
Clinic	71.66	5.9	19.0	9.8	4.38	1,508	359	290.33
No Clear Source	109.69	7.3	24.2	22.0	6.25	1,981	325	761.64
All Infrequent Users	17.89	1.2	23.5	4.8	4.17	1,016	275	113.09
All Frequent Users	90.25	6.7	21.4	14.1	6.48	1,918	305	516.83

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